

HUMANIZED IMMUNOGLOBULIN REACTIVE WITH  $\alpha 4\beta 7$  INTEGRIN

Abstract

The present invention relates to humanized immunoglobulins having binding specificity for  $\alpha 4\beta 7$  integrin, comprising an antigen binding region of nonhuman origin (e.g., rodent) and at least a portion of an immunoglobulin of human origin (e.g., a human framework region, a human constant region). In one embodiment, the humanized immunoglobulin can compete with murine Act-1 for binding to human  $\alpha 4\beta 7$  integrin. In a preferred embodiment, the antigen binding region of the humanized immunoglobulin comprises each of the complementarity determining regions of the light and heavy chains of the murine Act-1 antibody.

The present invention further relates to a humanized immunoglobulin light chain or heavy chain, isolated nucleic acids comprising a sequence which encodes a humanized immunoglobulin or immunoglobulin chain of the present invention (e.g., a single chain antibody), constructs comprising a nucleic acid of the present invention, and host cells comprising a nucleic acid of the present invention useful in a method of preparing a humanized immunoglobulin. The humanized immunoglobulins can be used in diagnostic and therapeutic applications in humans, for example to control lymphocyte infiltration (including recruitment and/or accumulation) to mucosal tissue.